

15 Due to the extremely wide transmission bandwidth provided by optical
fiber, all-optical fiber networks are increasingly being used as backbones for
global communication systems. To fully exploit the fiber bandwidth in such
networks, wavelength-division multiplexing (WDM) and wavelength-division
demultiplexing (WDD) technologies are employed so that an individual optical
20 fiber can transmit several independent optical streams simultaneously, with the
streams being distinguished by their center wavelengths. Since these optical
streams are coupled and decoupled based on wavelength, wavelength selective
devices are essential components in WDM communication networks.